

WHAT IS CLAIMED IS:

1. A method of mounting an instrument probe using an adapter post, said method comprising:

coupling an attachment end of the adapter post to a first wall defined between a cavity and an annulus;

coupling an opposite sealing end of the adapter post to a second wall defined between the annulus and an ambient area;

sealing the adapter post to compensate for a relative movement between the first wall and the second wall such that the sealing is maintained; and

inserting the instrument probe at least partially within the adapter post to monitor a process parameter within the cavity.

2. A method in accordance with Claim 1 wherein coupling an attachment end of the adapter post to a first wall comprises securely coupling the attachment end to the first wall.

3. A method in accordance with Claim 2 wherein coupling an attachment end of the adapter post to a first wall comprises threadably coupling the attachment end to a first wall.

4. A method in accordance with Claim 1 wherein coupling a sealing end of the adapter post to a second wall comprises coupling the sealing end to the second wall using a piston-ring sealing arrangement.

5. A method in accordance with Claim 1 wherein sealing the adapter post comprises sealing the adapter post between at least one of the cavity and annulus, the annulus and the ambient area, and the cavity and the ambient area.

6. A method in accordance with Claim 1 wherein sealing the adapter post comprises sealing the adapter post between at least two of the cavity and annulus, the annulus and the ambient area, and the cavity and the ambient area.

7. A method in accordance with Claim 1 wherein sealing the adapter post comprises sealing the adapter post between the cavity and annulus, between the annulus and the ambient area, and between the cavity and the ambient area.

8. A method in accordance with Claim 1 wherein inserting the instrument probe at least partially within the adapter post comprises sealingly coupling the instrument probe at least partially within the adapter post.

9. A method in accordance with Claim 8 wherein sealingly coupling the instrument probe at least partially within the adapter post comprises sealingly coupling the instrument probe to the second wall.

10. A method in accordance with Claim 9 wherein sealingly coupling the instrument probe to the second wall comprises sealingly coupling the instrument probe using a compression-ring sealing arrangement.

11. A method in accordance with Claim 1 wherein the instrument probe includes a damper, and wherein inserting the instrument probe at least partially within the adapter post comprises slidingly inserting the instrument probe at least partially within the adapter post to facilitate reducing radial motion of the instrument probe within the adapter post.

12. A mounting assembly for mounting an instrument probe within a cavity, said mounting assembly comprising:

an instrument probe comprising a probe head coupled to a probe sensor;

an adapter post comprising an attachment end, a sealing end, and a hollow body extending therebetween, said body configured to receive said probe sensor at least partially therein; and

a seal plate comprising an aperture sized to receive said adapter post therethrough.

13. A mounting assembly in accordance with Claim 12 wherein said attachment end is configured to couple to a first wall, said sealing end is configured to couple to a second wall that is spaced a distance from the first wall.

14. A mounting assembly in accordance with Claim 13 wherein said probe head is configured to couple to the second wall.

15. A mounting assembly in accordance with Claim 12 wherein said probe sensor comprises:

an elongate body; and

at least one damper configured to slidably engage a radially inner surface of said adapter post.

16. A mounting assembly in accordance with Claim 15 wherein said at least one damper comprises a coil wire helically-wound around at least a portion of the body.

17. A mounting assembly in accordance with Claim 12 wherein said adapter post sealing end further comprises a seal groove.

18. A mounting assembly in accordance with Claim 12 wherein said seal plate comprises a body having a first face and a second opposing face, at least one said first face and said second face comprising a seal groove circumscribing said aperture.

19. A mounting assembly in accordance with Claim 12 wherein said seal groove is configured to receive at least a portion of a compression seal ring therein.

20. A mounting assembly for mounting a temperature probe to a gas turbine engine, said temperature probe mounting assembly comprising:

an temperature probe comprising a probe head coupled to a probe sensor extending from said probe head, said probe sensor comprising an elongate body and a damper coil wire helically-wound around at least a portion of said body;

an adapter post comprising an attachment end configured to couple to the gas turbine engine, a sealing end comprising a circumferential seal groove configured to receive a seal ring partially therein to facilitate sealing contact between said sealing end and a wall, and a hollow body extending between said sealing end and said seal ring, said body sized to receive at least a portion of said probe sensor therein; and

a seal plate comprising an aperture sized to receive said adapter post therethrough, a first face, and an opposing second face, at least one said first face and said second face comprises a circumferential seal groove circumscribing said aperture, said seal groove sized to receive at least a portion of a seal ring therein.